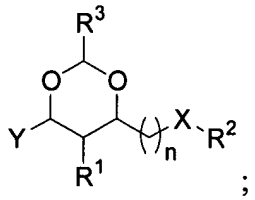
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. **(Original)** A compound having the structure **(I)**:



;

(I)

and pharmaceutically acceptable derivatives thereof;

wherein $\mathbf{R^1}$ is hydrogen, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

n is 1-5;

$\mathbf{R^2}$ is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

X is –O-, $-C(R^{2A})_2-$, -S-, or $-NR^{2A}-$, wherein R^{2A} is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

or wherein two or more occurrences of R^2 and R^{2A}, taken together, form an alicyclic or heterocyclic moiety, or an aryl or heteroaryl moiety;

$\mathbf{R^3}$ is an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety; and

Y is hydrogen or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety.

2. **(Original)** The compound of claim 1, wherein:

$\mathbf{R^1}$ is hydrogen, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety;

$\mathbf{R^2}$ is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety;

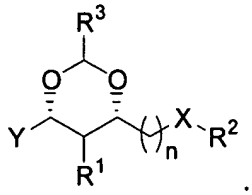
X is –O-, -C(R^{2A})$_2$-, -S-, or -NR^{2A}-, wherein R^{2A} is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety;

or wherein two or more occurrences of R^2 and R^{2A}, taken together, form an alicyclic or heterocyclic moiety, or an aryl or heteroaryl moiety;

R^3 is an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety; and

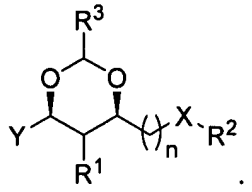
Y is hydrogen or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety.

3. **(Original)** The compound of claim 1, wherein the compound has the structure as shown in formula **(Ia):**



(Ia)

4. **(Original)** The compound of claim 1, wherein the compound has the structure as shown in formula **(Ib):**

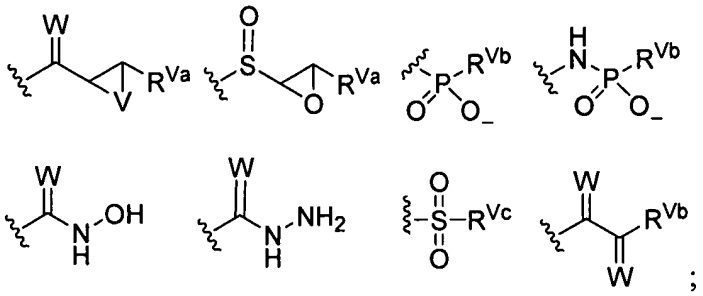


(Ib)

5. **(Currently Amended)** The compound of claim 1, wherein when R^3 represents a phenyl group substituted with a moiety having the structure –P-Q, the following groups do not occur simultaneously as defined:

P is selected from the group consisting of substituted or unsubstituted ~~C_4-C_8 alkylidene, C_4-C_8 alkenylidene, C_4-C_8 alkynylidene~~ C_4-C_8 alkylene, C_4-C_8 alkenylene, C_4-C_8 alkynylene, and –R-T-U-, wherein R and U are independently absent or represent a ~~C_2-C_7 alkylidene, a C_2-C_7 alkenylidene, or a C_2-C_7 alkynylidene~~ C_2-C_7 alkylene, a C_2-C_7 alkenylene, or a C_2-C_7 alkynylene, and T represents O, S or NR^T, wherein R^T represents hydrogen, lower alkyl, lower alkenyl, lower alkynyl, aralkyl, aryl or heterocyclyl; and

Q is selected from the group consisting of:

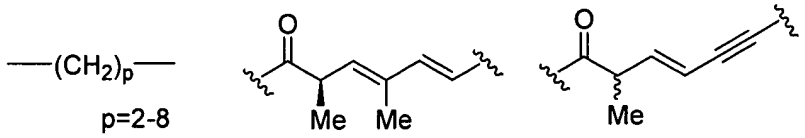


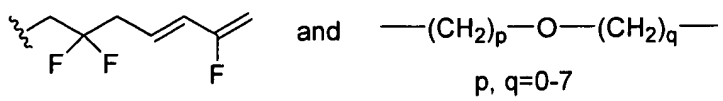
;

and a boronic acid moiety; wherein W is O or S; V is O, S or $-NR^{Vd}$, wherein R^{Vd} is hydrogen, alkyl, ~~alkoxyxarbonyl, aryloxyxarbonyl,~~ alkoxycarbonyl, aryloxycarbonyl, ~~alkylsulfonylarylsulfonyl,~~ alkylsulfonyl, arylsulfonyl, or aryl; R^{Va} is hydrogen, alkyl, alkenyl, alkynyl, or aryl; R^{Vb} is hydrogen, alkyl, aryl, alkoxy, aryloxy, amino, hydroxylamino, alkoxylamino or halogen; and R^{Vc} is hydrogen, alkyl, aryl, hydroxyl, alkoxy, aryloxy or amino.

6. **(Original)** The compound of claim 1, wherein when R^3 represents a phenyl group substituted with a moiety having the structure –P-Q, the following groups do not occur simultaneously as defined:

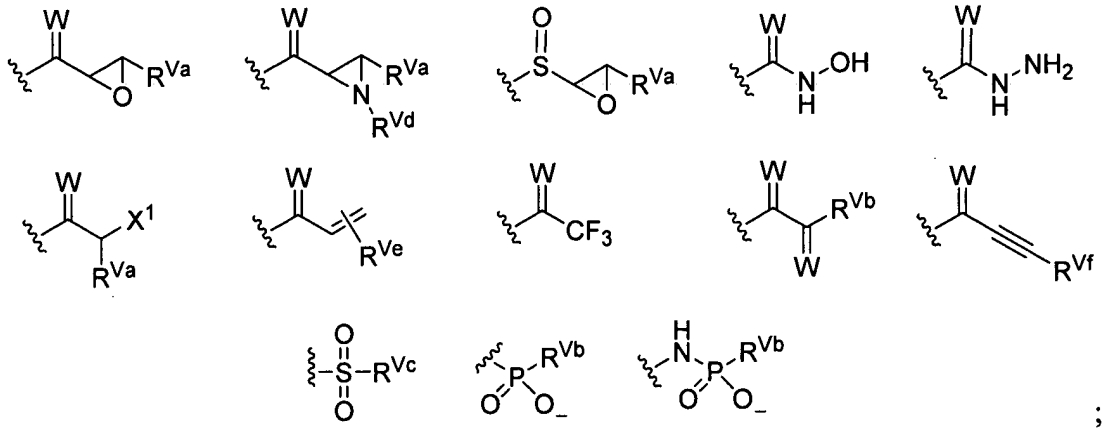
P is selected from the group consisting of:





;

and Q is selected from the group consisting of:

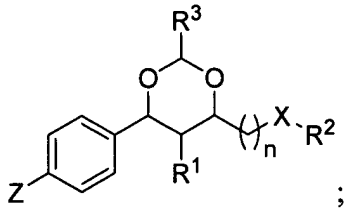


;

wherein W and R^{Va-d} are as defined above; X^1 is a good leaving group (*e.g.*, diazo, halogen, a sulfate or sulfonate ester such as a tosylate or mesylate); R^{Ve} is hydrogen, alkyl, aryl, alkoxy, aryloxy, halogen; and R^{Vf} is hydrogen, alkyl or halogen.

7. **(Original)** The compound of claim 1, wherein Y is an aryl or heteroaryl moiety substituted with Z, wherein Z is hydrogen, $-(CH_2)_qOR^Z$, $-(CH_2)_qSR^Z$, $-(CH_2)_qN(R^Z)_2$, $-C(=O)R^Z$, $-C(=O)N(R^Z)_2$, or an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein q is 0-4, and wherein each occurrence of R^Z is independently hydrogen, a protecting group, a solid support unit, or an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety.

8. **(Original)** The compound of claim 1, wherein Y is a substituted phenyl moiety and the compound has the structure **(II):**



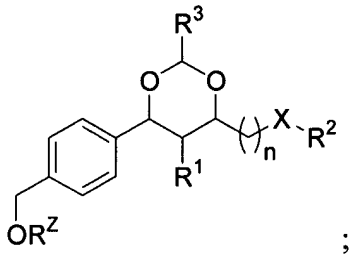
;

(II)

wherein Z is hydrogen, $-(CH_2)_qOR^Z$, $-(CH_2)_qSR^Z$, $-(CH_2)_qN(R^Z)_2$, $-C(=O)R^Z$, $-C(=O)N(R^Z)_2$, or an alkyl, heteroalkyl, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety, wherein q is 0-4, and wherein each

occurrence of R^Z is independently hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

9. **(Original)** The compound of claim 1, wherein Y is a substituted phenyl moiety and the compound has the structure **(III):**

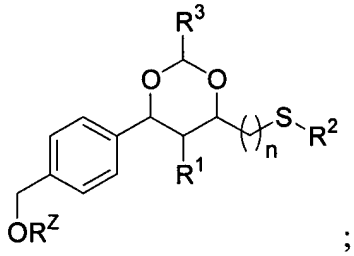


;

(III)

wherein R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

10. **(Original)** The compound of claim 1, wherein Y is a substituted phenyl moiety and X is S and the compound has the structure **(IV):**

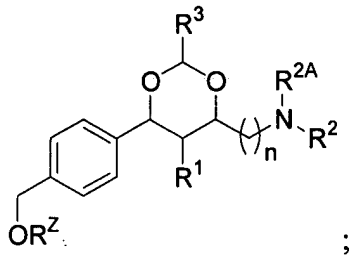


;

(IV)

wherein R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

11. **(Original)** The compound of claim 1, wherein Y is a substituted phenyl moiety and X is $-NR^{2A}$ and the compound has the structure **(V):**

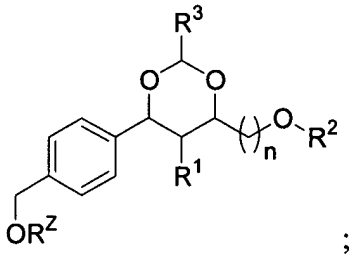


;

(V)

wherein R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

12. **(Original)** The compound of claim 1, wherein Y is a substituted phenyl moiety and X is –O- and the compound has the structure **(VI):**

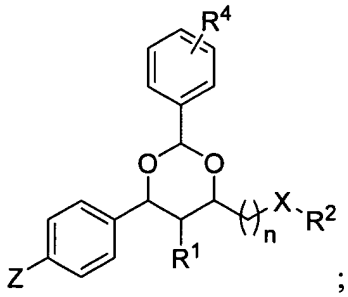


;

(VI)

wherein R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

13. **(Original)** The compound of claim 1, wherein Y is a substituted phenyl moiety and R^3 is a phenyl moiety substituted with R^4 and the compound has the structure **(VII):**

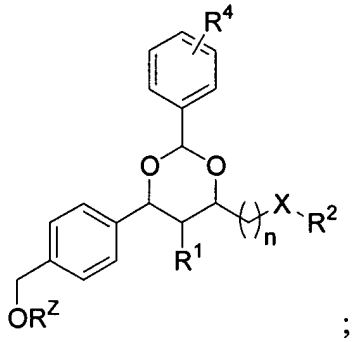


;

(VII)

wherein R^4 is $-(CH_2)_rN(R^{4A})_2$, $-(CH_2)_rSR^{4A}$, $-(CH_2)_rOR^{4A}$, $-(CH_2)_rNR^{4A}C(=O)R^{4B}$, $-(CH_2)_rC(=O)N(R^{4A})_2$, $-S(O)_2R^{4A}$, or is an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein each occurrence of R^{4B} is independently hydrogen, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety; and each occurrence of R^{4A} is independently hydrogen, a protecting group, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, or is $-C(=O)CH(R^{4C})NH(SO_2)R^{4D}$, $-SO_2R^{4C}$, $-C(=O)R^{4C}$, $-C(=O)N(R^{4C})_2$, $-C(=S)N(R^{4C})_2$, or $-C(=O)(CH_2)_tC(=O)NHR^{4C}$, wherein each occurrence of R^{4C} and R^{4D} is independently hydrogen, a protecting group, hydroxyl, protected hydroxyl, or an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein r and t are each independently 0-5; and Z is hydrogen, $-(CH_2)_qOR^Z$, $-(CH_2)_qSR^Z$, $-(CH_2)_qN(R^Z)_2$, $-C(=O)R^Z$, $-C(=O)N(R^Z)_2$, or an alkyl, heteroalkyl, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety, wherein q is 0-4, and wherein each occurrence of R^Z is independently hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

14. **(Original)** The compound of claim 13, wherein Z is $-CH_2OR^Z$, and the compound has the structure **(VIII):**



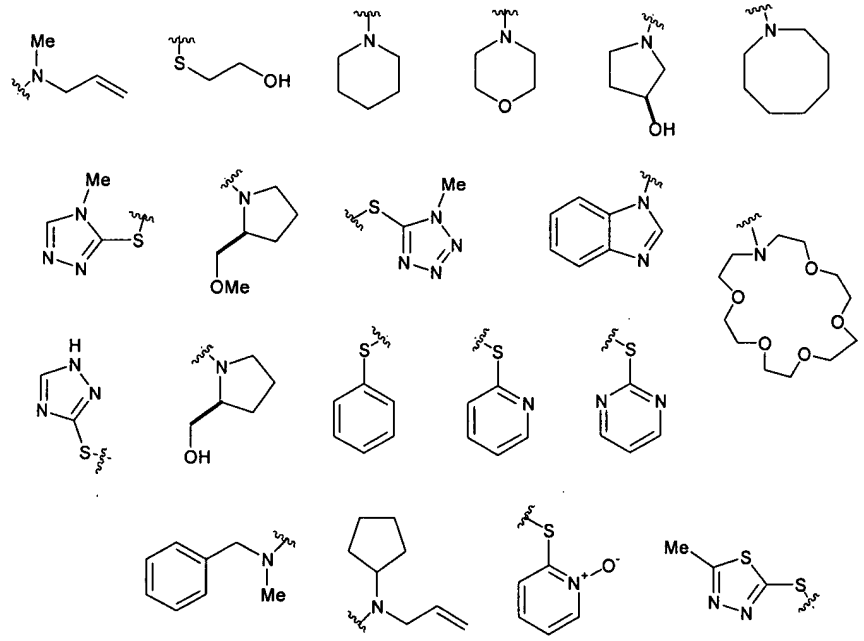
;

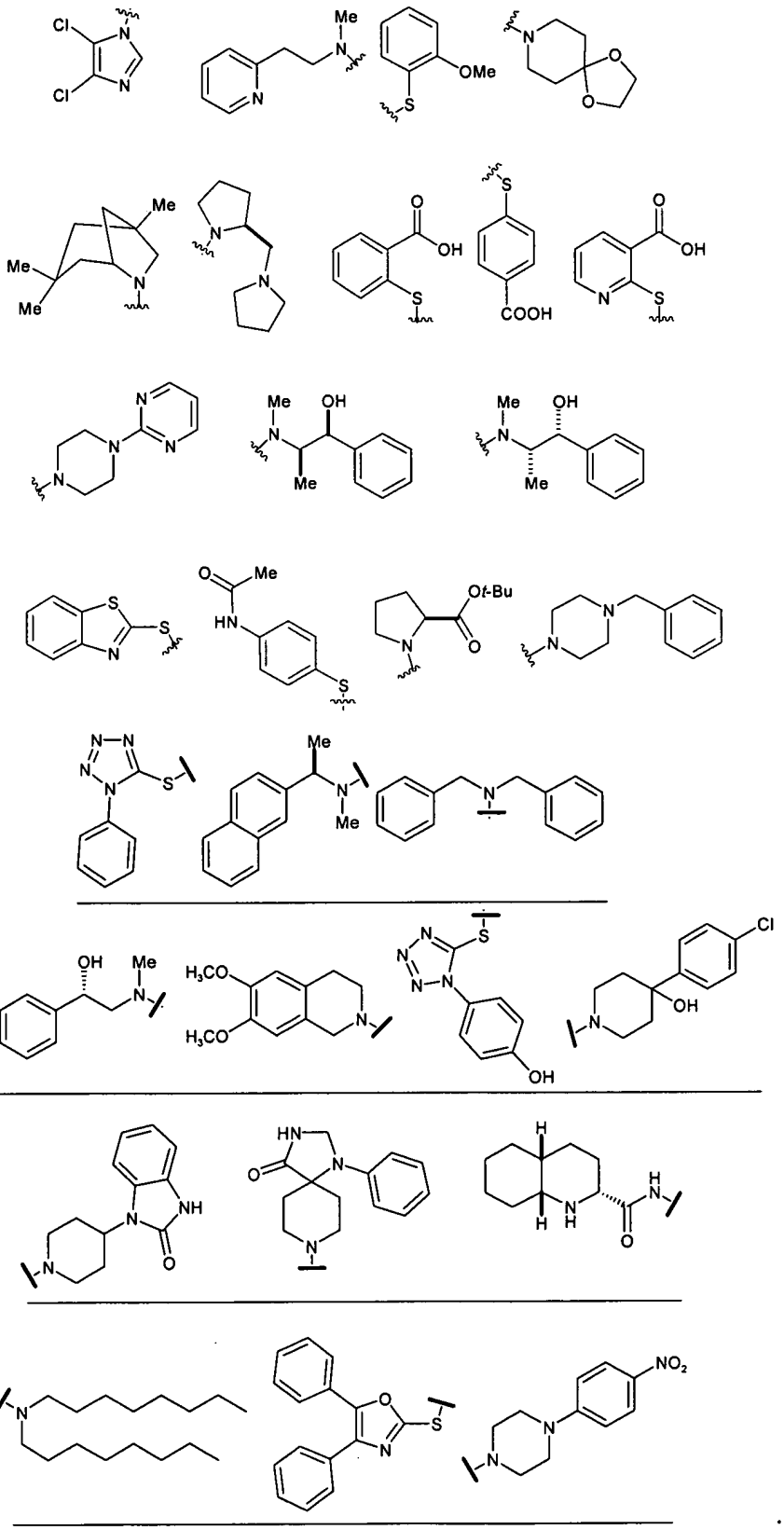
(VIII)

wherein R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

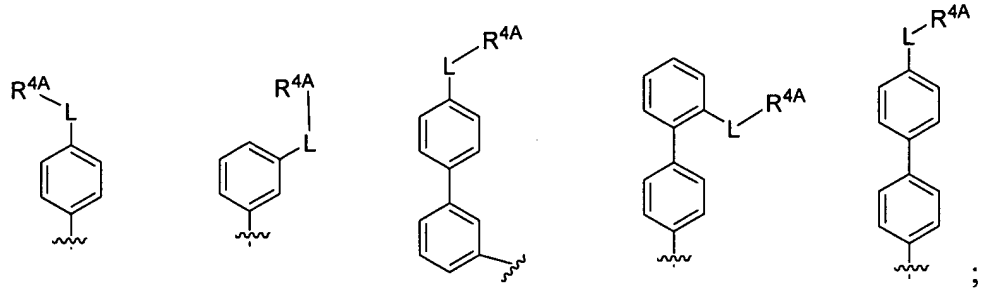
15. **(Original)** The compound of claim 1, wherein R^1 is hydrogen, methyl, or phenyl.

16. **(Currently Amended)** The compound of claim 1, wherein $X\text{-}R^2$ has one of the structures:





17. **(Currently Amended)** The compound of claim 1, wherein R^3 is one of the following structures:



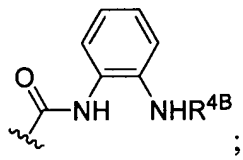
wherein L is a substituted or unsubstituted ~~C_{4-8}alkylidene or C_{4-8}alkenylidene~~ C_{4-8}alkylene or C_{4-8}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; and R^{4A} comprises a metal chelator.

18. **(Currently Amended)** The compound of claim 17, wherein L is ~~$-(CH_2)_rN(R^{4C})Alk^1R^{4A}$~~ $-(CH_2)_rN(R^{4C})Alk^1-$, wherein r is 0 or 1; R^{4C} is hydrogen, a nitrogen protecting group, alkyl, acyl, heteroalkyl, aryl or heteroaryl; and Alk^1 is a substituted or unsubstituted ~~C_{3-7}alkylidene or C_{3-7}alkenylidene~~ C_{3-7}alkylene or C_{3-7}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

19. **(Currently Amended)** The compound of claim 17, wherein L is ~~$-(CH_2)_rN(R^{4C})C(=O)Alk^2R^{4A}$~~ $-(CH_2)_rN(R^{4C})C(=O)Alk^2-$, wherein r is 0 or 1; R^{4C} is hydrogen, a nitrogen protecting group, alkyl, acyl, heteroalkyl, aryl or heteroaryl; and Alk^2 is a substituted or unsubstituted ~~C_{3-6}alkylidene or C_{3-6}alkenylidene~~ C_{3-6}alkylene or C_{3-6}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

20. **(Currently Amended)** The compound of claim 17, wherein L is –$(CH_2)_rNHC(=O)(CH_2)_t$-, wherein r is 0 or 1; and t is ~~3, 4 or 5~~ 3, 4, 5 or 6.

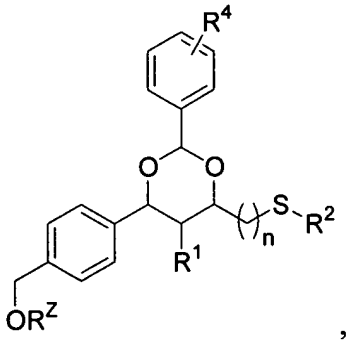
21. **(Original)** The compound of any one of claims 17-20, wherein R^{4A} is –C(=O)OR^{4B}, -C(=O)$NHOR^{4B}$ or a moiety having the structure:



;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

22. **(Original)** The compound of claim 1, wherein the compound has the structure:



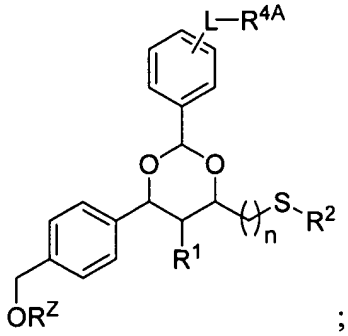
,

wherein R^4 is –$(CH_2)_rN(R^{4A})_2$, -$(CH_2)_rSR^{4A}$, -$(CH_2)_rOR^{4A}$, -$(CH_2)_rNR^{4A}C(=O)R^{4B}$, -$(CH_2)_rC(=O)N(R^{4A})_2$, -$S(O)_2R^{4A}$, or is an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein each occurrence of R^{4B} is independently hydrogen, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety; and each occurrence of R^{4A} is independently hydrogen, a protecting group, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, or is –C(=O)$CH(R^{4C})NH(SO_2)R^{4D}$, -SO_2R^{4C}, -C(=O)R^{4C}, -C(=O)$N(R^{4C})_2$, -C(=S)$N(R^{4C})_2$, or –C(=O)$(CH_2)_tC(=O)NHR^{4C}$, wherein each occurrence of R^{4C} and R^{4D} is independently hydrogen, a protecting group, hydroxyl, protected hydroxyl, or an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -

(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein r and t are each independently 0-5; and R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

23. **(Original)** The compound of claim 22, wherein R^1 is hydrogen, phenyl or methyl, R^Z is hydrogen or a solid support unit; R^2 is a substituted or unsubstituted alkyl or heteroalkyl moiety, or a substituted or unsubstituted aryl or heteroaryl moiety; and R^4 is $–(CH_2)_rN(R^{4A})_2$, $-(CH_2)_rSR^{4A}$, $-(CH_2)_rOR^{4A}$, $-(CH_2)_rNR^{4A}C(=O)R^{4B}$, $-(CH_2)_rC(=O)N(R^{4A})_2$, $-S(O)_2R^{4A}$, or is an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein each occurrence of R^{4B} is independently hydrogen, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety; and each occurrence of R^{4A} is independently hydrogen, a protecting group, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, or is $–C(=O)CH(R^{4C})NH(SO_2)R^{4D}$, $-SO_2R^{4C}$, $-C(=O)R^{4C}$, $-C(=O)N(R^{4C})_2$, $-C(=S)N(R^{4C})_2$, or $–C(=O)(CH_2)_tC(=O)NHR^{4C}$, wherein each occurrence of R^{4C} and R^{4D} is independently hydrogen, a protecting group, hydroxyl, protected hydroxyl, or an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein r and t are each independently 0-5.

24. **(Currently Amended)** The compound of claim 22, wherein R^4 represents a moiety having the structure ~~–L-R⁴A~~ –L-R^{4A} and the compound has the structure:



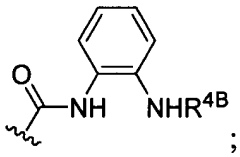
;

wherein L is a linker and R^{4A} comprises a metal chelator.

25. **(Currently Amended)** The compound of claim 24, wherein L is a substituted or unsubstituted ~~C_{4-8}alkylidene or C_{4-8}alkenylidene~~ C_{4-8}alkylene or C_{4-8}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

26. **(Currently Amended)** The compound of claim 25, wherein L is $-(CH_2)_rNHC(=O)(CH_2)_t-$, wherein r is 0 or 1; and t is ~~3, 4 or 5~~ 3, 4, 5 or 6.

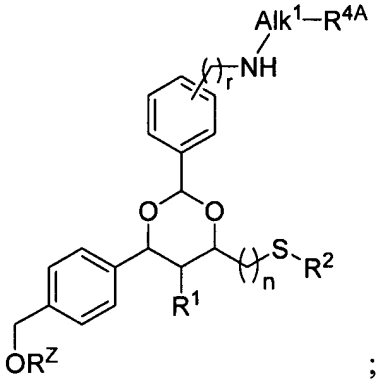
27. **(Original)** The compound of claim 24, wherein R^{4A} is $-C(=O)OR^{4B}$, $-C(=O)NHOR^{4B}$ or a moiety having the structure:



;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

28. **(Currently Amended)** The compound of claim 24, wherein the compound has the structure:

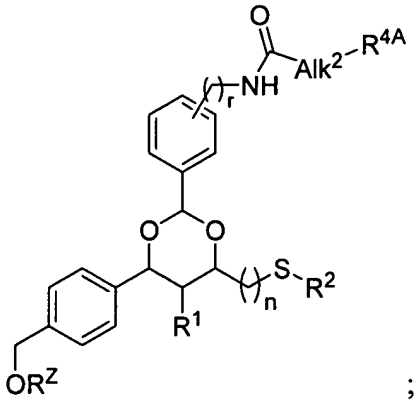


;

wherein r is 0 or 1; Alk^1 is a substituted or unsubstituted ~~C_{4-7}alkylidene or C_{4-7}alkenylidene~~ C_{4-7}alkylene or C_{4-7}alkenylene chain wherein up to two non-adjacent methylene

units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; R^{4A} comprises a metal chelator; and R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

29. **(Currently Amended)** The compound of claim 28, wherein Alk^1 is a moiety having the structure –C(=O)-Alk^2- and the compound has the structure:

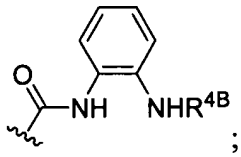


;

wherein Alk^2 is a substituted or unsubstituted ~~C_{3-6}alkylidene or C_{3-6}alkenylidene~~ C_{3-6}alkylene or C_{3-6}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

30. **(Currently Amended)** The compound of claim 29, wherein Alk^2 is a substituted or unsubstituted ~~C_{3-6}alkylidene~~ C_{3-6}alkylene chain.

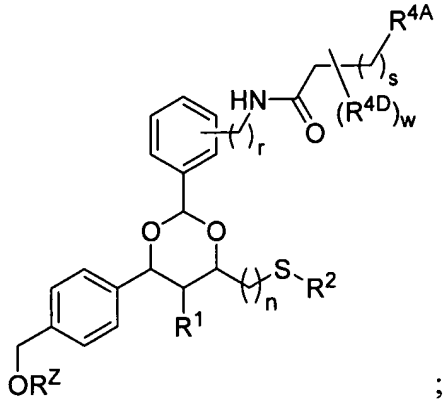
31. **(Original)** The compound of claim 29, wherein R^{4A} is –C(=O)OR^{4B}, -C(=O)$NHOR^{4B}$ or a moiety having the structure:



;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

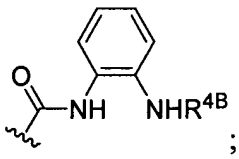
32. **(Original)** The compound of claim 28 having the structure:



;

wherein s is an integer from 2-5; w is an integer from 0-4; R^{4A} comprises a metal chelator and each occurrence of R^{4D} is independently hydrogen, alkyl, heteroalkyl, cycloalkyl, heterocyclic, alkenyl, alkynyl, aryl, heteroaryl, halogen, CN, NO_2, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), $-SO_2$, -C(=O)O-, -OC(=O), $-C(=O)NR^{W2}$, $-NR^{W2}C(=O)$; wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or any two adjacent occurrences of R^{2B}, taken together with the atoms to which they are attached, form a substituted or unsubstituted, saturated or unsaturated alicyclic or heterocyclic moiety, or a substituted or unsubstituted aryl or heteroaryl moiety.

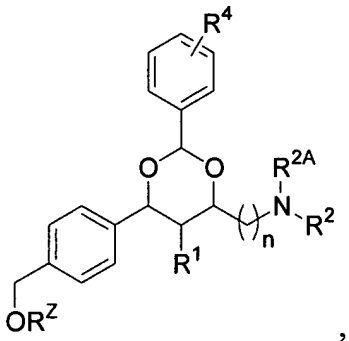
33. **(Original)** The compound of claim 32, wherein R^{4A} is $-C(=O)OR^{4B}$, $-C(=O)NHOR^{4B}$ or a moiety having the structure:



;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

34. **(Original)** The compound of claim 1, wherein the compound has the structure:

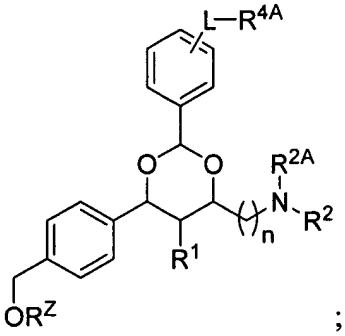


,

wherein R^4 is $-(CH_2)_rN(R^{4A})_2$, $-(CH_2)_rSR^{4A}$, $-(CH_2)_rOR^{4A}$, $-(CH_2)_rNR^{4A}C(=O)R^{4B}$, $-(CH_2)_rC(=O)N(R^{4A})_2$, $-S(O)_2R^{4A}$, or is an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein each occurrence of R^{4B} is independently hydrogen, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety; and each occurrence of R^{4A} is independently hydrogen, a protecting group, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, or is $-C(=O)CH(R^{4C})NH(SO_2)R^{4D}$, $-SO_2R^{4C}$, $-C(=O)R^{4C}$, $-C(=O)N(R^{4C})_2$, $-C(=S)N(R^{4C})_2$, or $-C(=O)(CH_2)_tC(=O)NHR^{4C}$, wherein each occurrence of R^{4C} and R^{4D} is independently hydrogen, a protecting group, hydroxyl, protected hydroxyl, or an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein r and t are each independently 0-5; R^{2A} is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aryl or heteroaryl moiety; and R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

35. **(Original)** The compound of claim 34, wherein R^1 is hydrogen, phenyl or methyl, R^Z is hydrogen or a solid support unit; R^2 is a substituted or unsubstituted alkyl or heteroalkyl moiety, or a substituted or unsubstituted aryl or heteroaryl moiety; either or both of R^2 and R^{2A}, or R^2 and R^{2A} taken together with the nitrogen atom to which they are attached, forms a substituted or unsubstituted cycloalkyl or heterocyclic moiety, or a substituted or unsubstituted aryl or heteroaryl moiety; and R^4 is $-(CH_2)_rN(R^{4A})_2$, $-(CH_2)_rSR^{4A}$, $-(CH_2)_rOR^{4A}$, $-(CH_2)_rNR^{4A}C(=O)R^{4B}$, $-(CH_2)_rC(=O)N(R^{4A})_2$, $-S(O)_2R^{4A}$, or is an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein each occurrence of R^{4B} is independently hydrogen, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety; and each occurrence of R^{4A} is independently hydrogen, a protecting group, an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, or is $-C(=O)CH(R^{4C})NH(SO_2)R^{4D}$, $-SO_2R^{4C}$, $-C(=O)R^{4C}$, $-C(=O)N(R^{4C})_2$, $-C(=S)N(R^{4C})_2$, or $-C(=O)(CH_2)_tC(=O)NHR^{4C}$, wherein each occurrence of R^{4C} and R^{4D} is independently hydrogen, a protecting group, hydroxyl, protected hydroxyl, or an aliphatic, alycyclic, heteroaliphatic, heterocyclic, aryl, heteroaryl, -(aliphatic)aryl, -(aliphatic)heteroaryl, -(heteroaliphatic)aryl, or –(heteroaliphatic)heteroaryl moiety, wherein r and t are each independently 0-5.

36. **(Currently Amended)** The compound of claim 34, wherein R^4 represents a moiety having the structure ~~–L-R^4A~~ –L-R^{4A} and the compound has the structure:



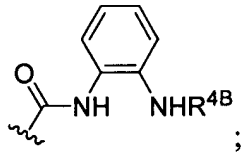
;

wherein L is a linker and R^{4A} comprises a metal chelator.

37. **(Currently Amended)** The compound of claim 36, wherein L is a substituted or unsubstituted ~~C_{4-8}alkylidene or C_{4-8}alkenylidene~~ C_{4-8}alkylene or C_{4-8}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

38. **(Currently Amended)** The compound of claim 37, wherein L is $-(CH_2)_rNHC(=O)(CH_2)_t-$, wherein r is 0 or 1; and t is ~~3, 4 or 5~~ 3, 4, 5 or 6.

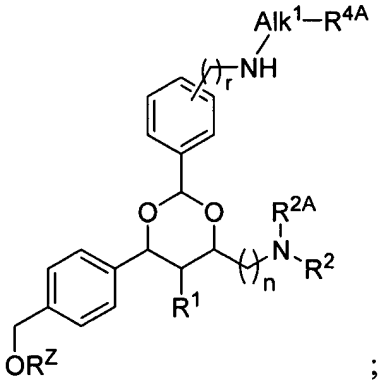
39. **(Original)** The compound of claim 36, wherein R^{4A} is $-C(=O)OR^{4B}$, $-C(=O)NHOR^{4B}$ or a moiety having the structure:



;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

40. **(Currently Amended)** The compound of claim 34, wherein the compound has the structure:

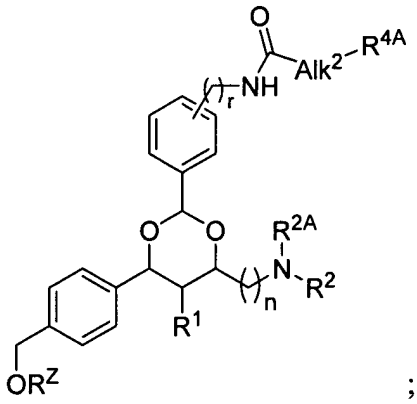


;

wherein r is 0 or 1; Alk^1 is a substituted or unsubstituted ~~C_{4-7}alkylidene or C_{4-7}alkenylidene~~ C_{4-7}alkylene or C_{4-7}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1},

$NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; R^{4A} comprises a metal chelator; and R^Z is hydrogen, a protecting group, a solid support unit, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, -(alkyl)aryl, -(alkyl)heteroaryl, -(heteroalkyl)aryl, or –(heteroalkyl)heteroaryl moiety.

41. **(Currently Amended)** The compound of claim 40, wherein Alk^1 is a moiety having the structure –C(=O)-Alk^2- and the compound has the structure:

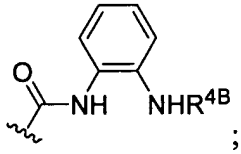


;

wherein Alk^2 is a substituted or unsubstituted ~~C_{3-6}alkylidene or C_{3-6}alkenylidene~~ C_{3-6}alkylene or C_{3-6}alkenylene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

42. **(Currently Amended)** The compound of claim 41, wherein Alk^2 is a substituted or unsubstituted ~~C_{3-6}alkylidene~~ C_{3-6}alkylene chain.

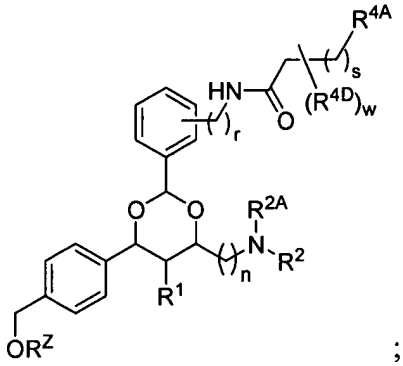
43. **(Original)** The compound of claim 41, wherein R^{4A} is –C(=O)OR^{4B}, -C(=O)$NHOR^{4B}$ or a moiety having the structure:



;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

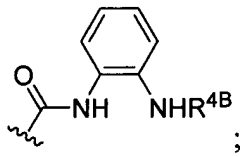
44. **(Original)** The compound of claim 34 having the structure:



;

wherein s is an integer from 2-5; w is an integer from 0-4; R^{4A} comprises a metal chelator and each occurrence of R^{4D} is independently hydrogen, alkyl, heteroalkyl, cycloalkyl, heterocyclic, alkenyl, alkynyl, aryl, heteroaryl, halogen, CN, NO_2, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), $-SO_2$, -C(=O)O-, -OC(=O), $-C(=O)NR^{W2}$, $-NR^{W2}C(=O)$; wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or any two adjacent occurrences of R^{2B}, taken together with the atoms to which they are attached, form a substituted or unsubstituted, saturated or unsaturated alicyclic or heterocyclic moiety, or a substituted or unsubstituted aryl or heteroaryl moiety.

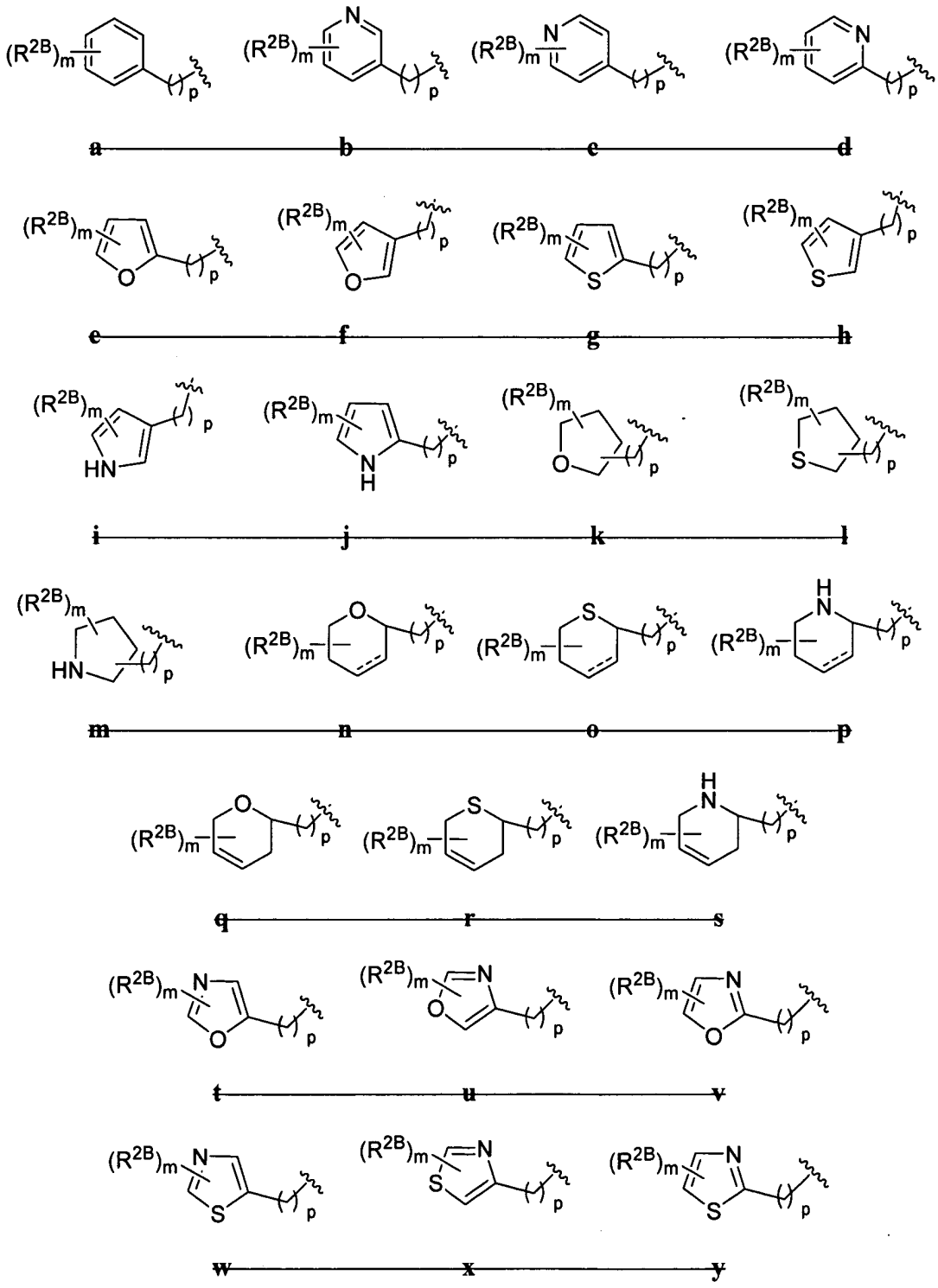
45. **(Original)** The compound of claim 44, wherein R^{4A} is $-C(=O)OR^{4B}$, $-C(=O)NHOR^{4B}$ or a moiety having the structure:

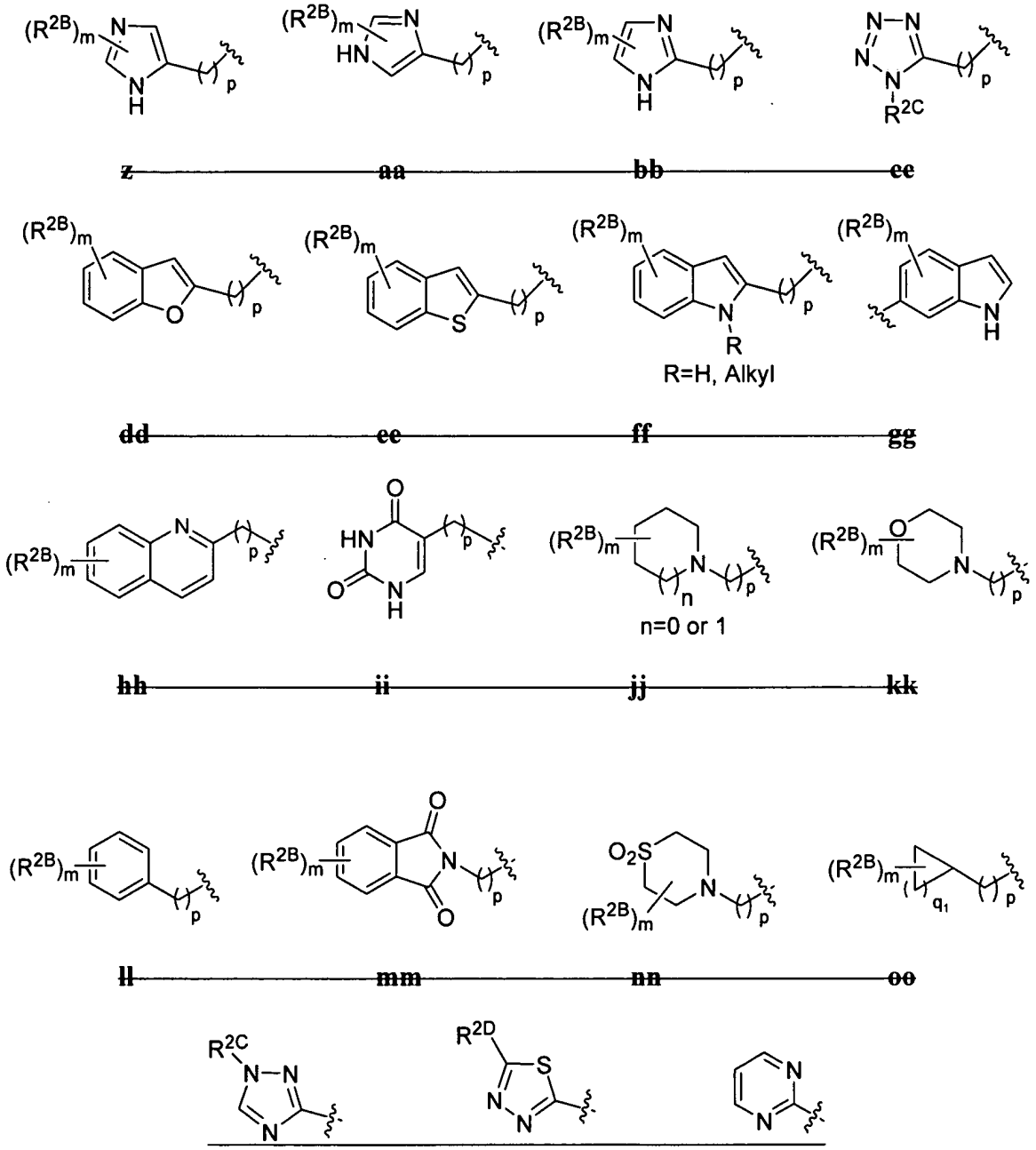


;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

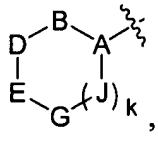
46. **(Currently Amended)** The compound of claim 1, 22, 32, 34 or 44, wherein R^2 is one of the following structures:





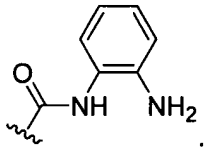
wherein m and p are each independently integers from 0 to 3; q_1 is an integer from 1 to 6; R^{2C} is hydrogen, lower alkyl, aryl or a nitrogen protecting group; R^{2D} is hydrogen or lower alkyl; and each occurrence of R^{2B} is independently hydrogen, halogen, -CN, -COOH, NO_2, alkyl, heteroalkyl, aryl, heteroaryl, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), $-SO_2$, -C(=O)O-, -OC(=O), $-C(=O)NR^{W2}$, $-NR^{W2}C(=O)$; wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken

together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or any two adjacent occurrences of R^{2B}, taken together with the atoms to which they are attached, form a substituted or unsubstituted, saturated or unsaturated alicyclic or heterocyclic moiety, or a substituted or unsubstituted aryl or heteroaryl moiety.

47. **(Original)** The compound of claim 34 or 44, wherein either or both of R^2, R^{2A}, or R^2 and R^{2A}, taken together with the nitrogen atom to which they are attached comprise  , wherein k is an integer from 0-3; A-B, B-D, D-E, E-G, G-J, two or more occurrences of J, and J-A are each connected by a single or double bond; A is CH, C, or N; B is CR^B, $C(R^B)_2$, C(=O), NR^B, N, O or S; D is CR^D, $C(R^D)_2$, C(=O), NR^D, N, O or S; E is CR^E, $C(R^E)_2$, C(=O), NR^E, N, O or S; G is CR^G, $C(R^G)_2$, C(=O), NR^G, N, O or S; and each occurrence of J is independently CR^J, $C(R^J)_2$, C(=O), NR^J, N, O or S; wherein each occurrence of R^B, R^D, R^E, R^G and R^J is independently hydrogen, halogen, hydroxyl, protected hydroxyl, thiol, protected thiol, amino, protected amino, -COOH, $-CONH_2$, -NHCOOH, -NHCOO(alkyl), -NHCO(alkyl), or a substituted or unsubstituted, cyclic or acyclic, linear or branched alkyl or heteroalkyl moiety, or a substituted or unsubstituted aryl or heteroaryl moiety, or any two or R^B, R^D, R^E, R^G or R^J taken together comprises a substituted or unsubstituted alicyclic or heterocyclic, moiety or a substituted or unsubstituted aryl or heteroaryl moiety.

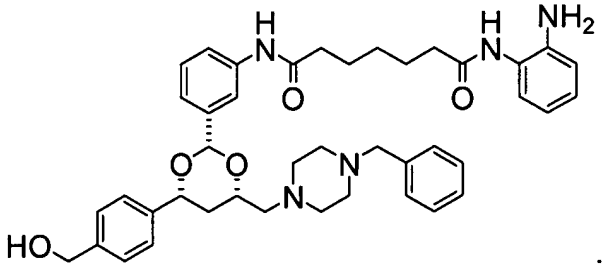
48. **(Original)** The compound of claim 34 or 44, wherein one or both of R^2 and R^{2A} is an aryl or heteroaryl moiety substituted with -COOH, halogen, alkyl, heteroalkyl, aryl, heteroaryl, OH, SH, NO_2, NH_2, or –NHC(=O)alkyl.

49. **(Currently Amended)** The compound of claim ~~1, 22, 32, 34 or 44~~ 32 or 44, wherein R^{4A} is –C(=O)OH, -C(=O)NHOH or a moiety having the structure:

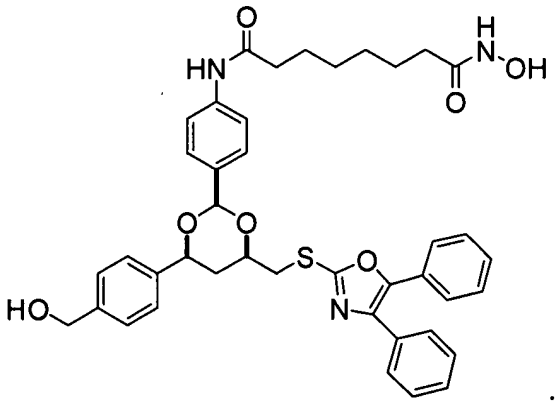


50. **(Currently Amended)** The compound of claim ~~1, 22, 32, 34 or 44~~ 32 or 44, wherein R^{4A} is -C(=O)NHOH.

51. **(Original)** The compound of claim 1 having the structure:



52. **(Original)** The compound of claim 1 having the structure:



53. **(Original)** A pharmaceutical composition comprising:

a compound of any one of claims 1, 22, 32, 34 or 44; and

a pharmaceutically acceptable carrier or diluent, optionally further comprising an additional therapeutic agent.

54. **(Original)** The pharmaceutical composition of claim 53, wherein the compound is present in an amount effective to inhibit histone deacetylase activity.

55. **(Original)** A method for inhibiting histone deacetylase activity in a patient or a biological sample, comprising administering to said patient, or contacting said biological sample with an effective inhibitory amount of a compound of claim 1, 22, 32, 34 or 44.

56. **(Original)** A method for inhibiting histone deacetylase activity in a cell comprising contacting a cell with a compound of any one of claims 1, 22, 32, 34 or 44.

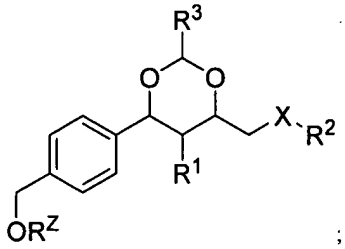
57. **(Original)** The method of claim 55, wherein the histone deacetylase is HDAC1 or HDAC6.

58. **(Original)** A method for treating cancer comprising:

administering to a subject in need thereof a therapeutically effective amount of a compound of any one of claims 1, 22, 32, 34 or 44.

59. **(Original)** The method of claim 58, further comprising administering an additional therapeutic agent.

60. **(Currently Amended)** A method for the synthesis of ~~the core structure (III^A)~~ a compound of claim 9 wherein n is 1, and the compound has the structure:

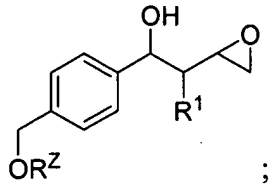


;

(III^A)

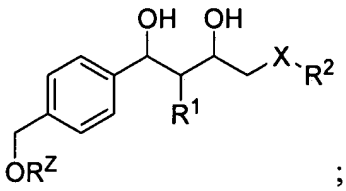
said method comprising steps of:

providing an epoxy alcohol having the structure:



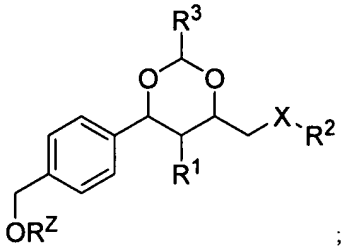
;

reacting the epoxy alcohol with a reagent having the structure R^2XH under suitable conditions to generate a diol having the core structure:



; and

reacting the diol with a reagent having the structure $R^3CH(OMe)_2$ under suitable conditions to generate a scaffold having the core structure:



;

(III^A)

wherein $\mathbf{R^1}$ is hydrogen, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

$\mathbf{R^2}$ is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

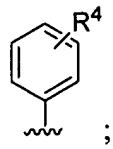
X is –O-, $-C(R^{2A})_2-$, -S-, or $-NR^{2A}-$, wherein R^{2A} is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

or wherein two or more occurrences of R^2 and R^{2A}, taken together, form an alicyclic or heterocyclic moiety, or an aryl or heteroaryl moiety;

$\mathbf{R^3}$ is an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety; and

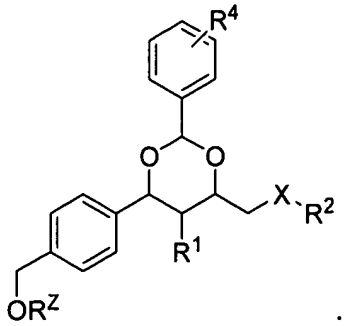
$\mathbf{R^Z}$ is an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety and is attached to a solid support.

61. **(Original)** The method of claim 60, wherein R^3 has the following structure:



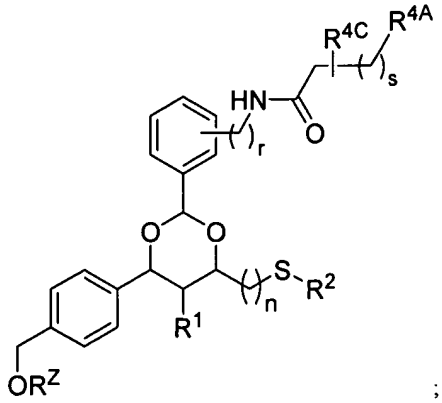
;

and the method generates a scaffold having the core structure:



(VIII^A)

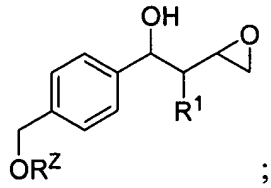
62. **(Currently Amended)** A method for the synthesis of ~~the core structure (IX)~~ a compound of claim 28 having the structure:



(IX)

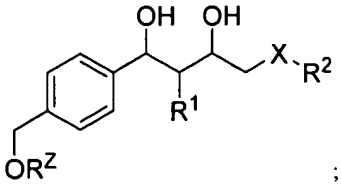
said method comprising steps of:

providing an epoxy alcohol having the structure:



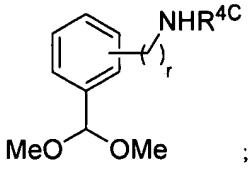
;

reacting the epoxy alcohol with a reagent having the structure R^2XH under suitable conditions to generate a diol having the core structure:



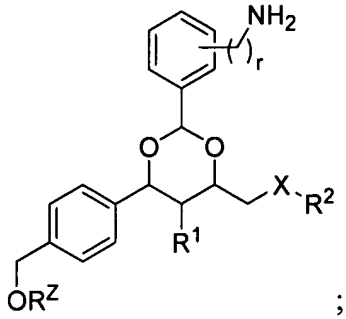
;

subjecting the diol with a reagent having the structure:



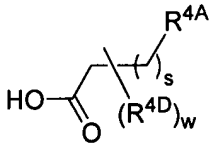
; wherein R^{4C} is a nitrogen protecting group;

to suitable conditions to generate an amine having the structure:

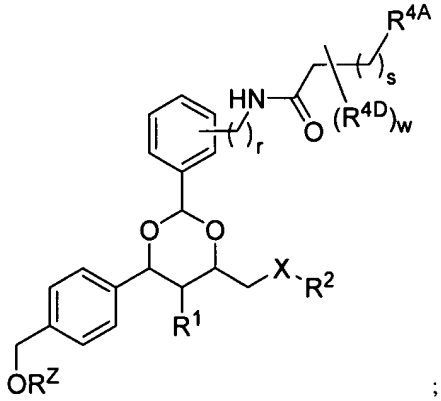


; and

reacting the amine with a reagent having the structure:



under suitable conditions to generate a scaffold having the core structure:



;

(IX)

wherein $\mathbf{R^1}$ is hydrogen, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

$\mathbf{R^2}$ is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

X is –O-, -$C(R^{2A})_2$-, -S-, or -NR^{2A}-, wherein R^{2A} is hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety;

or wherein two or more occurrences of R^2 and R^{2A}, taken together, form an alicyclic or heterocyclic moiety, or an aryl or heteroaryl moiety;

r is 0 or 1;

s is an integer from 2-5;

w is an integer from 0-4;

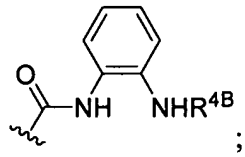
$\mathbf{R^{4A}}$ comprises a metal chelator;

each occurrence of $\mathbf{R^{4D}}$ is independently hydrogen, alkyl, heteroalkyl, cycloalkyl, heterocyclic, alkenyl, alkynyl, aryl, heteroaryl, halogen, CN, NO_2, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), $-SO_2$, -C(=O)O-, -OC(=O), $-C(=O)NR^{W2}$, $-NR^{W2}C(=O)$; wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or any two adjacent occurrences of R^{2B}, taken together with the atoms to which they are attached, form a substituted or unsubstituted, saturated or unsaturated alicyclic or heterocyclic moiety, or a substituted or unsubstituted aryl or heteroaryl moiety; and

$\mathbf{R^{Z}}$ is an aliphatic, alicyclic, heteroaliphatic, heterocyclic, aromatic or heteroaromatic moiety and is attached to a solid support.

63. **(Original)** The method of claim 60 or 62, wherein the method further comprises cleaving the core structure from the solid support to which it is attached.

64. **(Original)** The method of claim 60 or 62, wherein R^{4A} comprises $-C(=O)OR^{4B}$, $-C(=O)NHOR^{4B}$ or a moiety having the structure:



;

wherein each occurrence of R^{4B} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

65. (Original) The method of claim 64, wherein R^{4B} is hydrogen.